NAS NORTH ISLAND - NAVY REGION SOUTHWEST
NAVY ENVIRONMENTAL LEADERSHIP PROGRAM

CLEAN UP

IR SITE 5 – REMOVAL AND CHEM-OXIDATION

LEAD ACTIVITY
Naval Air Station North Island (NAS North Island)

STATUS
Active

MISSION
To remove contaminated source area soil (approximately 700 cubic yards) and *in situ* chemical oxidation treatment of impacted groundwater for the protection of human health and the environment.

REQUIREMENT
This removal action is being taken under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980. The California Environmental Protection Agency Department of Toxic Substances Control (DTSC) is responsible for enforcing both the federal and state hazardous waste regulations associated with this removal action. All aspects of the removal action comply with applicable laws and requirements, including the Endangered Species Act (concerning bird species at NAS North Island) and land disposal restrictions.

DESCRIPTION
Installation Restoration Site 5, Unit 2 is located in the southeast portion of NAS North Island (see image to right). It is bordered to the north and south by the NAS North Island golf course and is part of the flight approach for Runway 29. The nearest residential areas to Site 5 are located approximately 800 feet west (base housing) and 1,800 feet east (city of Coronado) of the site.

Impacted soil and groundwater at the site resulted from operation of liquid waste disposal pits at the site from the 1940s to 1965. Wastes that were disposed include VOCs and petroleum hydrocarbons. VOCs are chemicals (some of which may be cancer-causing) that readily evaporate at room temperature and are found in everything from paints to underarm deodorant and cleaning fluids.

REMOVAL ACTION ACTIVITIES
The removal action involves two major field activities: excavation and groundwater treatment.

Phase 1 - Excavation: During this phase, contaminated soil will be excavated (dug up) and placed in large,

Excavation of non-saturated source area soil

sealed bins. These bins of excavated soil will be tested and then transported off-site, by truck, to a permitted disposal facility. The excavation area will subsequently be filled in (or "backfilled") with clean soil. Heavy construction equipment and trucks will be used throughout this phase.

Phase 2 - Groundwater treatment: Groundwater at the site will be treated with a process known as *in situ* chemical oxidation. This is a process that breaks down contaminants into smaller naturally occurring compounds that do not adversely affect groundwater. *In situ* chemical oxidation is accomplished by creating a reaction in the subsurface by injecting hydrogen peroxide (an oxidizer), ferrous sulfate (a catalyst), and hydrochloric acid (for pH treatment) into the contaminated groundwater. Contaminants are oxidized to carbon dioxide, water, and chloride.

Chemical-oxidation pilot test

BENEFITS

- Protection of human health and the environment
- Removal of contaminated soil from the site
- Treatment of the impacted groundwater

CURRENT STATUS

ACTION	DATE COMPLETED
Soil excavation	December 15, 2001
Backfill and compaction of clean soil	December 16, 2001
Sherman Road repairs	December 21, 2001
Re-open Sherman Road	December 21, 2001

FUTURE PLAN OF ACTION & MILESTONES

ACTION	DATE OF ACTIVITY
Begin transportation of bins of excavated soil from site to permitted disposal facility	February 12, 2002
Groundwater treatment	April 15 – June 24, 2002

COLLABORATION/TECHNOLOGY TRANSFER

Pre-construction documentation developed for this project is available to other Department of Defense projects; thereby transferring knowledge developed on this project and reducing project costs.

BIBLIOGRAPHY

IT Corporation, 2001, *Remedial Action Work Plan Addendum*, Time-Critical Removal Action, Installation Restoration Site 5, Unit 2, Naval Air Station North Island, San Diego, California, Document Control No. 1441, Revision 1, November 19.

OHM Remediation Services Corp., 2001, *Remedial Action Work Plan*, Time-Critical Removal Action, Installation Restoration Site 5, Unit 2, Naval Air Station North Island, San Diego, California, Document Control No. SW6838, Revision 3, June 8.

Bechtel National, INC., 1996, *Draft Final Remedial Investigation/RCRA Facility Investigation Report Site 5 – Golf Course Garbage Disposal Area*, Naval Air Station North Island, Coronado, California, CTO-0009/0360, November.

RELATED GOVERNMENT INTERNET SITES

Not Applicable

RELATED NAVY GUIDEBOOK REQUIREMENTS

Not Applicable

POINTS OF CONTACT

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